IN THE CLAIMS:

1. (Amended) A method for allocating system resources in a multi-platform communication system, comprising:

providing a plurality of individual transponding nodes;

processing a plurality of local user signals at a ground hub to compensate for differential propagation delays to any one of a plurality of remote users;

assigning each of said plurality of remote users a profit value, which is dependent upon certain predetermined user criteria;

assigning each of said plurality of remote users one or more resource cells in platform-code space depending upon service requirements of each of said plurality of remote users, at least one of said users assigned a same platform code in more than one node;

wherein each resource cell assigned to a particular user enables the particular user to transmit signals to or from the hub through a particular one of said transponding nodes and using a particular code.

8. The method of claim 7 wherein said total profit/utility value is maximized according to the following constraints:

$$\sum_{i=1}^{Nu} \delta_{ij} P_{ij} \le P_j$$

$$\delta_i = \underset{j=1}{\overset{n_i}{\mathrm{OR}}} \delta_{ij}$$

$$\sum_{i=1}^{Nu} \delta_i b_i \le B .$$

9. (Amended) A mobile wireless communication system for a variety of different mobile user types, comprising:

a plurality of individual transponding nodes;

a plurality of individual resource cells each associated with a particular one of said plurality of individual transponding nodes and a particular one of a plurality of available codes wherein more than one of the plurality of available codes are shared over more than one node;

a plurality of mobile terminals, each of which is assigned to operate in one or more of said plurality of individual resource cells;

a profit value assigned to each of said plurality of mobile terminals; and

a central hub for establishing links with one or more of said plurality of mobile terminals and for assigning one or more of said resource cells to each of said plurality of mobile terminals and for assigning said profit value to each of said plurality of mobile terminals, said central hub assigning one or more of said resource cells in response to said profit value.

11. (Amended) The system of claim 9, wherein said central hub pre-processes signals for forward link transmission such that the signals are radiated with compensating time delays to an intended one of said plurality of mobile users such that all the signals intended for the intended one of said plurality of mobile users are coherently received by the intended one of said plurality of mobile users; and

wherein said central hub post-processes received signals to introduce compensating time delays such that all such signals received from a particular remote user may be coherently processed together.

18. (Amended) A method for allocating system resources in a multi-platform communication system, comprising:

providing a plurality of mobile users;

establishing a link between each of said plurality of mobile users and a ground hub through one or more of a plurality of transponding nodes;

processing a plurality of local user signals at said ground hub;

assigning each of said plurality of mobile users an individual profit value indicative of a particular type of service requested by said mobile user; and

transmitting signals to or from said ground hub through one or more of said transponding nodes and one or more resource cells that have the same code in more than one of said transponder nodes destined for the same user.

Please add the following new claims:

22. (New) A method for allocating system resources in a multi-platform communication system, comprising:

providing a plurality of individual transponding nodes;

processing a plurality of local user signals at a ground hub to compensate for differential propagation delays to any one of a plurality of remote users;

assigning each of said plurality of remote users a profit value, which is dependent upon certain predetermined user criteria;

assigning each of said plurality of remote users one or more resource cells in platform-code space depending upon service requirements of each of said plurality of remote users;

wherein each resource cell assigned to a particular user enables the particular user to transmit signals to or from the hub through a particular one of said transponder nodes and using a particular code; and

wherein said system utilizes a FDMA technique and said total profit/utility value is maximized according to the following constraints:

$$\sum_{i=1}^{Nu} \delta_{ij} P_{ij} \leq P_j$$

$$\delta_i = \underset{j=1}{\overset{n_i}{\mathrm{OR}}}\, \delta_{ij}$$

$$\sum_{i=1}^{Nu} \delta_i b_i \leq B .$$

23. (New) A method for allocating system resources in a multi-platform communication system, comprising:

providing a plurality of individual transponding nodes;

processing a plurality of local user signals at a ground hub to compensate for differential propagation delays to any one of a plurality of remote users;

assigning each of said plurality of remote users a profit value, which is dependent upon certain predetermined user criteria;

assigning each of said plurality of remote users one or more resource cells in platform-code space depending upon service requirements of each of said plurality of remote users;

wherein each resource cell assigned to a particular user enables the particular user to transmit signals to or from the hub through a particular one of said transponder nodes and using a particular code; and

wherein said system utilizes a TDMA technique and said total profit/utility value is maximized according to the following constraints:

$$\sum_{i=1}^{Nu} \delta_{ij} P_{ij} \leq P_j$$

$$\delta_i = \underset{j=1}{\overset{n_i}{\mathrm{OR}}}\, \delta_{ij}$$

$$\sum_{i=1}^{Nu} \delta_i b_i \leq B .$$